

## Science Achievement Rubric for 8<sup>th</sup> Grade Knollwood Report Card

Performance Indicators	Rubric
<p>Content:</p> <p>Understands ideas and concepts presented</p>	<p style="text-align: center;">3</p> <ul style="list-style-type: none"> <li>Assessments demonstrate clear ability to comprehend/apply scientific concepts</li> <li>Applies information to explain issues, concepts, and/or draw conclusions</li> <li>Prior misconceptions are revised when new evidence is discovered or new material learned</li> </ul>
	<p style="text-align: center;">2</p> <ul style="list-style-type: none"> <li>Assessments show miscomprehension or limited ability to comprehend and/or apply given information</li> <li>Shows limited ability to apply scientific concepts to draw conclusions</li> </ul>
	<p style="text-align: center;">1</p> <ul style="list-style-type: none"> <li>Assessments demonstrate limited recall of information given</li> <li>May comprehend and/or apply information with extra support</li> <li>Holds onto prior misconceptions in the face of new information</li> </ul>
	<p style="text-align: center;">E</p> <ul style="list-style-type: none"> <li>Assessments show an ability to use concepts to generate new ideas or products, or make sound judgments about the ideas of others</li> <li>Assessments show evidence of understanding of concepts and ideas that reaches beyond the assignment to make other connections and extend thinking.</li> <li>Correctly predicts how learned information applies under new circumstances</li> </ul>

Content: Supports ideas with reliable evidence	<p>3</p> <ul style="list-style-type: none"> <li>Filters and evaluates information to determine what is needed to support ideas and theories</li> <li>Appropriately uses data (labs, experiments, textual evidence), observations and/or prior knowledge to support conclusions</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>The use of data and observations to support a conclusion is limited</li> <li>Prior knowledge and connections are used in a limited manner to examine issues and support ideas and explore theories</li> <li>Ideas may be supported by basic scientific information</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>Data and/or observations are rarely used to support to a conclusion</li> <li>Information on a literal level may be used to support ideas, issues and theories</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>Logically and extensively uses prior scientific knowledge to provide evidence and support conclusions</li> </ul>
Content: Recalls pertinent information	<p>3</p> <ul style="list-style-type: none"> <li>Independently identifies significant scientific information related to a unit of study</li> <li>Labels diagrams, charts, and other graphical displays accurately</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>With some prompting or other scaffolds (such as a word bank or color coding), identifies significant scientific information related to a unit of study</li> <li>Labels diagrams, charts and other graphical displays with some accuracy</li> </ul>

	<p>1</p> <ul style="list-style-type: none"> <li>▪ With the aid of mnemonic devices, visual clues, word banks, and other scaffolds along with an increased contextual exposure, identifies a limited selection of scientific information related to a unit of study</li> <li>▪ Labels some (though not necessarily the most important) features of diagrams, charts, and other graphical displays when given a word bank and/or other reference materials</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>▪ Identifies significant as well as obscure features of scientific information and seeks to find out more</li> <li>▪ Labels diagrams, charts, and other graphical displays with precision and detail beyond models given</li> </ul>
Research/Inquiry: Conducts a scientific investigation	<p>3</p> <ul style="list-style-type: none"> <li>• Scientific question and hypothesis are logically paired</li> <li>• Conducts experiments that provide reliable evidence logically related to the hypothesis, that supports the conclusion</li> <li>• Procedures are complete and able to be followed</li> <li>• Use and understanding of scientific method or process is evident</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>• Needs assistance to formulate testable questions and hypotheses</li> <li>• Scientific question and hypothesis do not always match</li> <li>• Conducts experiments that produce limited relevant data</li> <li>• Procedures difficult to execute without making assumptions</li> <li>• Use of scientific method is limited</li> </ul>

	<p>1</p> <ul style="list-style-type: none"> <li>• Incapable of forming testable questions and hypotheses</li> <li>• Conducts experiments that produce data not capable of supporting the hypothesis</li> <li>• Procedures would not allow another researcher to replicate the experiment</li> <li>• Use of scientific method is not evident</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>• Able to make connections from their research and apply to other areas of science</li> </ul>
Research/Inquiry: Organizes and interprets data from investigation	<p>3</p> <ul style="list-style-type: none"> <li>• Gathers complete and relevant data and observations</li> <li>• Properly uses appropriate tools and technologies (rulers, scales, hand lenses, computer, reference materials, etc.) to gather and analyze data</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>• Data and observations gathered may not be complete or relevant to the hypothesis</li> <li>• Uses tools and technologies (ruler, scales, hand lens, computer, reference materials, etc.) as directed to gather data and draw conclusions</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>• Data and observations are not gathered independently</li> <li>• Has difficulty using tools and technologies (ruler, scale, hand lens, computer, reference materials, etc.) as directed to gather some of the necessary data</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>• Accurately, consistently, and proficiently uses all appropriate tools and technologies (rulers, pH paper, hand lens, computer, reference materials, etc. ) to gather, analyze data, and draw conclusions</li> <li>• Applies scientific method accurately (frames testable questions, designs experiments,</li> </ul>

	gathers and records data, analyzes data, and verifies results)
Communication: Produces in written, graphic, oral formats	<p>3</p> <ul style="list-style-type: none"> <li>• Uses scientific terminology appropriate to the situation when presenting information in a logical sequence</li> <li>• Presents information in a clear, focused, detailed, and easily communicated manner Which will include graphs, tables, sketches, maps and or graphic organizers</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>• Uses some scientific terminology appropriate to the situation when presenting information sometimes including sketches, maps and or graphic organizers</li> <li>• Data often presented in an inappropriate format</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>• Uses some scientific terminology that has been previously provided by the teacher when presenting information</li> <li>• Simple sketches, maps, or graphic organizers are rarely produced or accurate</li> <li>• Data frequently not included.</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>• Presents a well-organized persuasive argument using sketches, maps or graphic organizers which demonstrate a depth of understanding of important relationships</li> </ul>